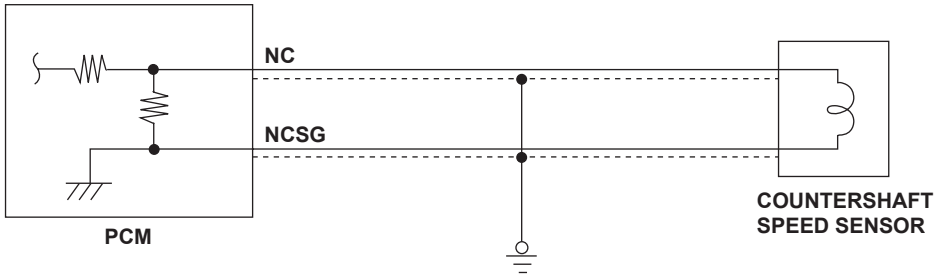
DTC P0720: Problem in Countershaft Speed Sensor Circuit



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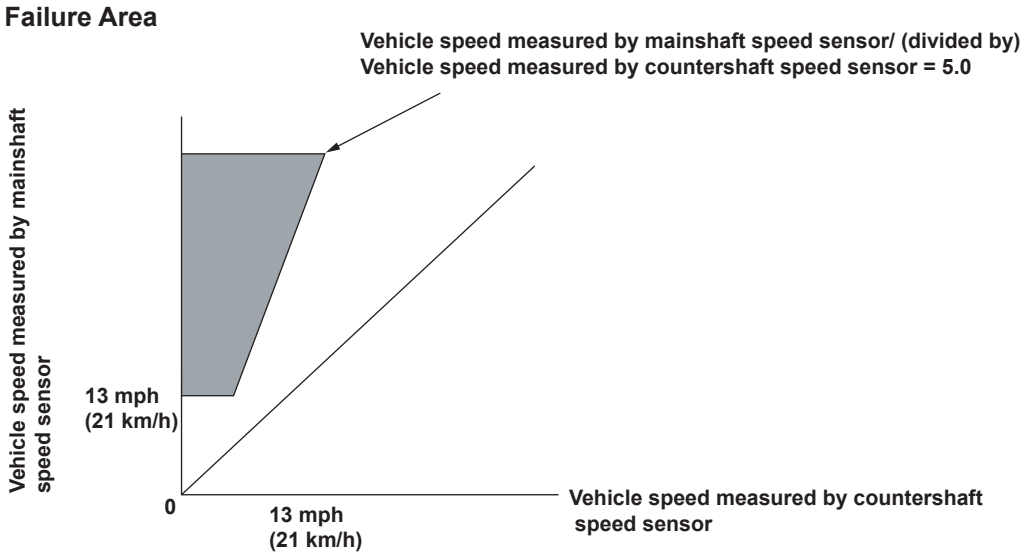
Failure Area
Vehicle speed measured by mainshaft speed sensor/ (divided by)
Vehicle speed measured by countershaft speed sensor = 5.0
Vehicle speed measured by mainshaft speed sensor
13 mph
(21 km/h)
0
13 mph
(21 km/h)
Vehicle speed measured by countershaft speed sensor

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General Description

The countershaft speed sensor is attached to the outside of the transmission housing. The countershaft speed sensor generates a pulsing signal according to the speed of the park gear on the countershaft. Using that signal, the powertrain control module (PCM) determines the speed of the countershaft. If pulse dropouts occur with the countershaft rotating, the PCM detects a malfunction that may be caused by an open, a temporary open, or a short to ground. Based on the velocity ratio measured by the vehicle speed sensor and the countershaft speed sensor, a malfunction is detected and a DTC is stored.

Monitor Execution, Sequence, Duration, DTC Type

Execution	Under the Enable Conditions
Sequence	None
Duration	10 seconds
DTC Type	One drive cycle, MIL ON, D4 indicator blinks

Enable Conditions

Condition	Minimum	Maximum
Vehicle speed	13 mph (21 km/h)	—
No active DTCs	Mainshaft speed sensor, Countershaft speed sensor, Shift solenoid valves A, B, and C, Transmission range switch, Torque converter clutch solenoid valve, A/T clutch pressure control solenoid valves A and B	

Malfunction Threshold

The vehicle speed measured by the mainshaft speed sensor is greater than the vehicle speed measured by the countershaft speed sensor by a factor of 5.0 for at least 10 seconds when the vehicle speed measured by the mainshaft speed sensor is 13 mph (21 km/h) or more.

Driving Pattern

Start the engine, and drive the vehicle at a speed of 13 mph (21 km/h) or more in D4 position for at least 10 seconds.

- If you have difficulty duplicating the DTC, retest after turning off electrical components such as the audio system and the A/C.
- Drive the vehicle in this manner only if the traffic regulations and ambient conditions allow.

Diagnosis Details

Conditions for illuminating the MIL
When a malfunction is detected, the MIL comes on and the DTC and the freeze frame data are stored.

Conditions for clearing the MIL
The MIL, the DTC, and the freeze frame data can be cleared by using the scan tool Clear command or by disconnecting the battery.